



TO: Brian Helminger, District Director

FROM: Christine DeMaster, Trilogy Consulting

DATE: March 1, 2021

RE: Allocation of Debt Service for Interceptor Rehabilitation Project

Background and Findings of Fact

I have reviewed the information and documentation provided by the District:

- Copy of 2008 user rate study
- Documentation of the allocation of the original interceptor construction costs ('reach method') and the Wisconsin Public Service Commission complaint
- The 2005 ICA agreement between the District, the Village of Combined Locks and the Darboy Sanitary District
- Exhibit and memos regarding past and proposed improvements to the interceptor sewer
- Proposed method of allocating debt service for the interceptor project
- Projected debt service schedule for the interceptor project
- Last three years' financial statements
- Schedule of debt service payments for all existing debt
- The 2021 budget summary and allocation of operating expenses and debt service to functional parameters
- Resolution No. 177 establishing a minimum fund balance for the District
- Last five years' billable flows for each member community

Based on this review, as well as our discussions, I have identified the following factors and conditions that are relevant to the question of how debt service for the current proposed interceptor rehabilitation project should be recovered from member communities:

- Two construction projects in the District's history have been directly allocated to member communities and recovered through means other than user charges based on current volume of flow: the original construction of the interceptor, and an extension of the interceptor to serve the Darboy Sanitary District and the Village of Combined Locks (2005 ICA agreement). Just under 15% of the 2005 project was allocated to the District, and the debt service for that project has been allocated to the volume component of user rates and recovered from all member communities based on current flow volumes.

- The debt service for the construction of the original interceptor sewer was charged to the then existing member communities using the 'reach method' whereby each municipality pays for a portion of the segments, or reaches, of the interceptor that it uses. For segments used by more than one municipality, the costs were allocated based on the percentage of 2025 design flows for each municipality.
- The Wisconsin Public Service Commission, in its 1980 decision in 9300-SR-3, determined that there was no agreement between the member communities regarding allocation of debt service for the construction of the interceptor. However, it also found that the reach method was not 'clearly unreasonable' and that the decision to join a regional sewerage district should provide benefit to each party, but not necessarily equal benefit.
- There is no agreement between the member communities regarding allocation of costs for rehabilitation, replacement, or expansion of the existing interceptor.
- There is no agreement between the member communities that provides guaranteed capacity rights in the interceptor or the Wastewater Treatment Plant (WTP), or that limits the amount of average day or peak day flows that any member community can discharge to District facilities.
- The user rates charged to all member communities include debt service for the 2005 ICA agreement, improvements made to the WTP in 2006, and \$4.493 million of manhole repairs and CIPP lining of the interceptor in 2007. The WTP debt service is allocated to both volume and loadings. Interceptor and manhole project debt service is allocated entirely to volume.
- Interceptor and manhole rehabilitation projects in 1999/2000 and 2013 were financed from existing undesignated reserves that were accumulated from past user charges paid in by member communities.
- The current interceptor project will not expand the capacity of the interceptor or extend service to any new areas or member communities.

Regulatory Context

Wis. Stats. 281.57(8)(c), 281.58(14)(b)7 and NR162.08(3) all require that a municipality receiving state assistance or a Clean Water Fund loan must adopt a system of equitable user charges to ensure that each user or user class pays for its proportionate share of the costs of operation and maintenance costs, including replacement costs, of the treatment works,

including interceptors and collector sewers. These sections do not address how capital costs or debt service costs are to be apportioned among users and user classes.

Wis. Stats. 200.59 governs user charges established by metropolitan sewerage districts. It permits a sewerage district to institute sewer user charges to recover all or part of the operating costs from users of the sewerage system in proportion to which each user's wastewater discharge contributes to such costs. It further requires that in determining such proportional costs, the sewerage commission shall consider such factors, without limitation because of enumeration, as strength, volume, and delivery flow rate characteristics of each user's sewage. This section does not address capital costs or debt service.

Wis. Stats. 200.59 also provides that the Public Service Commission may hold a public hearing on a sewerage district's rates if there is a complaint brought by a user or users that the charges are unreasonable or unjustly discriminatory. The sewerage commission may submit the factual data, reports and analyses considered by it in establishing the charges, rules, or practices subject to a complaint. The public service commission shall give due weight to such data, reports and analyses. After the hearing, if the public service commission determines that the charges, rules, or practices complained of are unreasonable or unjustly discriminatory, it shall determine and by order fix reasonable charges, rules and practices and shall make such other order respecting such complaint as may be just and reasonable. In determining whether rates are unreasonable or unjustly discriminatory, the PSC is required to use the criteria contained in Wis. Stats. 283, which requires that each recipient of waste treatment services shall pay its proportionate share of the cost of operation and maintenance, including replacement, of any waste treatment services provided by such treatment work.

When hearing complaints about sewer charges, the PSC has put the burden of proof on the complainant to demonstrate that the charges are unreasonable or unjustly discriminatory. The PSC does not hold unregulated sewer utilities or sewerage districts to the same methods or approaches to rate setting that it uses with regulated sewer utilities. Rather it limits its determination to whether the rates and charges are clearly unreasonable or unjustly discriminatory. In addition, since the statutes and administrative code are silent as to any criteria for recovery of capital costs and debt service, there is more flexibility for utilities to establish cost allocation and recovery methods for these costs.

Review of Guidance from Industry Organizations

Water Environment Federation, 'Financing and Charges for Wastewater Systems', WEF Manual of Practice No. 27, 2004.

The Water Environment Federation is a not-for-profit organization with a vision of preservation and enhancement of the global water environment. This manual was prepared by the Financing and Charge for Wastewater Systems Task Force of the WEF. It is described as "a general overview of the current practices and procedures that should be considered for financing and establishing rates and charges for wastewater collection and treatment systems." The following summarizes the manual's discussion of approaches relevant to the allocation of interceptor facilities.

Chapter 6, "Allocating Costs-of-Services to Cost-Causative Components"

For both the design basis allocation and the functional cost allocation methods (or a hybrid of the two), the discussion describes the predominant purpose cost-causative factors as being volume-based.¹

Chapter 7, "Distribution of Costs-of-Service to Customer Classes"

The manual describes wholesale customers as typically using backbone facilities, usually large interceptor mains of the owning utility.² The main difference here being that each wholesale customer of the District is also a member of the District, rather than strictly a customer of the District. The discussion of classification factors for customers includes general service requirements, customer usage characteristics, and geographic location. Within the geographic location discussion, the manual states that elevation (e.g. where additional pumping is required) and distance (as it relates to the length of pipe) may be considered when classifying customers.³ The manual does not further discuss how these geographic factors would then be used in the cost allocation and rate setting processes.

Chapter 8, "Development and Design of a Schedule of Rates and Charges"

The manual does not delve into great depth on setting rates for wholesale customers but does acknowledge that service to other communities is frequently provided and "the rate design

¹ Pages 101, 111.

² Page 124.

³ Pages 123-126.

process must take into consideration the level of service provided to the customer.”⁴ Its main takeaway is that wholesale customers that have their own collection systems should only be billed for costs of conveyance of wastewater from their connection point to the plant and for treatment, and not for any other community’s collection of wastewater.

Capital Cost and Debt Service Allocation Methods Used by Other Regional Utilities in WI

Wastewater utilities that provide regional service fund interceptor construction and rehabilitation costs in a variety of ways that have evolved over time based on the history and geographic layout of each system. A brief writeup of several regional systems in Wisconsin is included as Appendix A. The following table summarizes the available information regarding the method of recovering costs for interceptor sewers.

Organization		Funding for Interceptor Sewers			Notes
		Extension to New Service Area	Relief Sewer / Upsizing	Sewer Rehab / Replacement	
Walcomet	Sewerage District			User Rates	Connection charge of \$4,000 per equivalent meter
Sheboygan	Municipal Utility with Wholesale Customers			User Rates	
La Crosse	Municipal Utility with Wholesale Customers	Outside of City - paid for by connecting community(ies)	User Rates	User Rates	Connection charge for buy-in to existing interceptor capacity
Racine	Municipal Utility with Wholesale Customers	Outside of City - paid for by connecting community(ies)	Increased capacity purchased by contributing communities - reach method; deficiency costs included in user rates	User Rates	
Sussex	Municipal Utility with Wholesale Customers	Lannon and Menomonee Falls built their own interceptor; Town of Lisbon uses Sussex interceptors with costs recovered through Reserve Capacity Assessments and user rates	RCAs and User Rates	RCAs and User Rates	
NEW Water	Sewerage District	Paid for by municipalities served - reach method	Paid for by municipalities served - reach method	User Rates	

Based on personal experience as well as the review of other selected utilities, the approaches to funding interceptor sewers vary based on the type of project and the overall framework of intermunicipal service agreements. Construction of new interceptor sewers to serve new service areas are typically funded by the parties served, either based on total flows or the reach

⁴ Page 160.

method. Interceptor replacements that increase the capacity of the interceptor may be funded in part by the municipalities served based on the amount of increased capacity needed, if there is an intermunicipal agreement framework in place that allocates capacity in specific interceptors to specific municipalities, as is the case with NEW Water. The Racine Water and Wastewater Utility is the only utility I am aware of that has an intermunicipal agreement that requires wholesale customers to participate directly in the cost of rehabilitating or replacing interceptor sewers. However, that agreement only covers two relief sewers and inline peak flow storage that were constructed less than 20 years ago, so the specific formula for allocating the costs of replacing those facilities has not been determined.

Conclusions

Based on my review of District documents, Wisconsin regulations, industry guidelines, and funding frameworks for other regional sewer service providers in Wisconsin, I offer the following thoughts regarding funding for the upcoming interceptor sewer rehabilitation project:

- Regional sewer service providers in Wisconsin have considerable flexibility for recovering capital costs and debt service from service area municipalities. Wisconsin Statutes and Administrative Code do not contain criteria for allocating such costs, and the PSC has allowed considerable latitude to provider utilities when reviewing complaints.
- Absent an agreement that requires cost sharing for interceptor replacement or rehabilitation, which is unusual, such costs are typically recovered through uniform user charge rates.
- Variations of the reach method are used for new interceptor sewer extensions or expansion of interceptor sewer capacity. However, this approach is typically used within a framework where parties paying for the capacity are given specific capacity allocations within the segments of the interceptor.
- The Heart of the Valley Metropolitan Sewerage District is different than the other districts or regional providers listed in this memo in that it has a single large interceptor with the member communities arranged in a linear fashion, versus a hub and spoke type layout with multiple interceptors. Given this layout, the use of the reach method was a reasonable approach for allocating the cost of the initial construction of the interceptor sewer.
- The upcoming project will not add capacity to the interceptor, and the costs per segment may vary substantially based on past work that was done to the interceptor

(funded through user charges), the types of waste received at different discharge points, and other factors.

- Recovering debt service for the interceptor rehabilitation project through user charge rates, as proposed by District staff, would be a reasonable approach based on the following:
 - Standard industry practice for a project of this type
 - Past precedent for including interceptor sewer rehabilitation costs in user charge rates
 - The absence of an agreement allocating capacity to member communities or requiring direct cost sharing in replacement or rehabilitation costs

Appendix A Summary of Regional Systems

WalCoMet

The Walworth County Metropolitan Sewerage District serves 11 entities within Walworth County, including the Cities of Elkhorn and Delavan and the Villages of Darien and Williams Bay, along with several sanitary districts. Combined, it serves a population of about 28,000 people and owns 38 miles of interceptor sewers and 10 lift stations to convey sanitary sewer flows to the wastewater treatment facility located in the City of Delavan. The District was created in 1974 between two original entities (City of Elkhorn and Delavan Lake Sanitary District) and expanded to an additional nine over time, the most recent being the Lake Como Sanitary District in 1999. Each individual entity maintains its own collection system and is responsible for determining local user charges for its individual collection system needs. Wastewater flow is monitored by WalCoMet at 13 different locations throughout the interceptor system for purposes of determining accurate bills for each entity served.

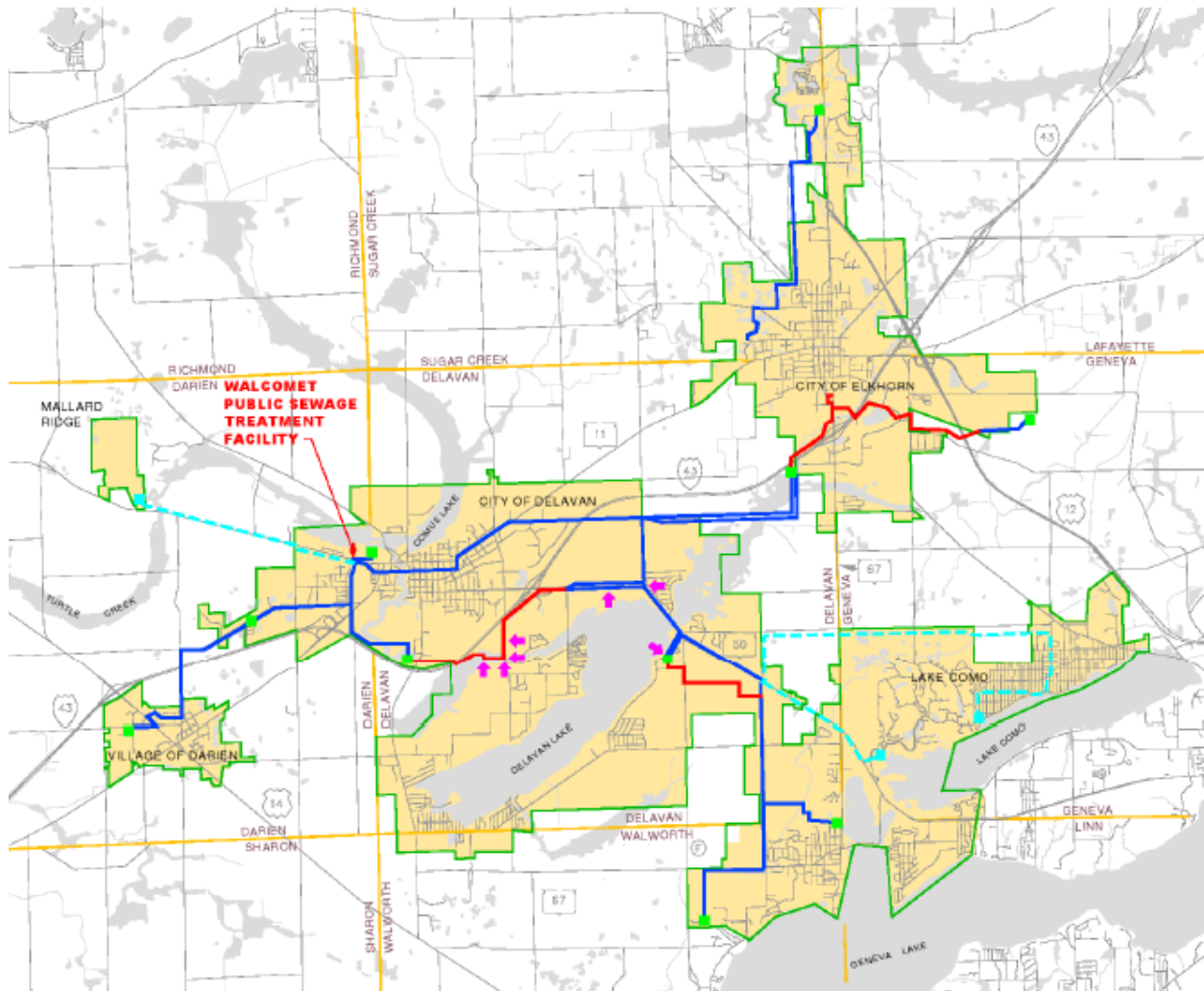
2021-2025 Capital Budget Highlights

- \$800,000 in 2023 to reline gravity sewer, funded through user rates
- \$3,750,000 in 2021 for CTH O force main, phase 1, funded through Clean Water Fund loan
- \$4,780,000 in 2024 for Williams Bay No. 2 24-inch force main, funded through Clean Water Fund loan

2021 Rate Update Highlights

- User charges are comprised of the following components: Volume, BOD, Suspended Solids, Nitrogen, Customer Units
- Each user charge component is allocated to each entity based on the proportionate volume or loadings from each entity
- Annual charges projected to be about \$6.5 million, accounting for most of the projected total of \$7.2 million revenues
- Revenues are applied to all expenses, including debt service
- Current rate methodology was established in 2009
- Unit rates for each user charge component are the same for each connecting entity; there are no differential rates based on a different classification or location

1 - WalCoMet Service Area



Sheboygan Regional Wastewater Treatment Facility

The City of Sheboygan owns and operates the regional treatment facility that serves, in addition to the City, the City of Sheboygan Falls, Village of Kohler, and portions of the Towns of Lima, Sheboygan, Sheboygan Falls, and Wilson, serving a total of 68,000 people. The original facility was constructed in 1936, with regionalization beginning in 1978. There are five major interceptors owned by the City of Sheboygan that convey sanitary sewer flow to the regional treatment facility.

2021 Budget Highlights

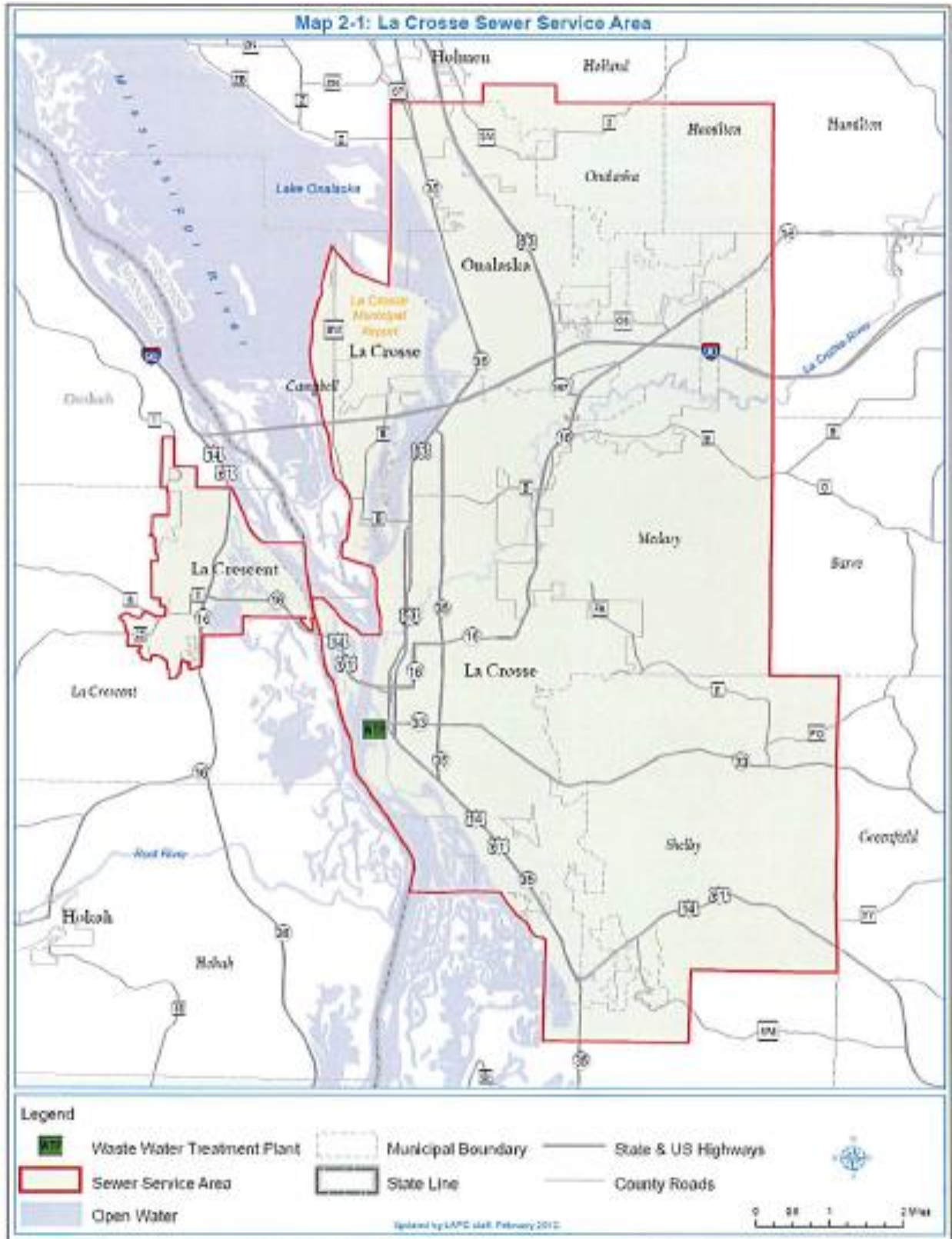
- Scheduled to begin the South Lakeshore Interceptor Sewer Rehab project
 - Estimated cost of \$13,837,000
 - Conveys 50% of all flow to the treatment facility

La Crosse Sanitary Sewer Utility

The City of La Crosse owns and operates a wastewater treatment facility on Isle La Plume, 26 lift stations, and about 205 miles of interceptor and collection sanitary sewers. The original facility was constructed in 1936, although sewers had been constructed as early as the 1880s. Several expansions of plant capacity have occurred over the decades, and the utility now serves the Cities of Onalaska and La Crescent and the Towns of Shelby and Campbell on a wholesale basis, in addition to all City properties.

The first formal rate study was undertaken in 1990, with wholesale rates adopted in 1996. Multiple rate studies have been performed about every five years since, and these studies form the basis of the establishment of the methodology for allocating costs among customers. The City owns and maintains all interceptor mains within the City limits, which serve both retail customers and the wholesale communities. Because infrastructure was not necessarily installed specifically to serve any particular community, sewer mains and lift stations are classified as either interceptor or collection based on the diameter of the main and the location of the station. City retail customers pay for a portion of both interceptor and collection facility costs in their user charge rates, while wholesale communities only pay for a portion of interceptor facility costs in their user charge rates. These costs are allocated among the different customer classes based on proportion of current flows, which are projected using actual historical flow data. Each wholesale community owns and maintains its own collection and conveyance system to the point where its sanitary sewerage is discharged to the City interceptor system. No wholesale customers are charged directly or assigned a fixed share of debt service for interceptor capital costs.

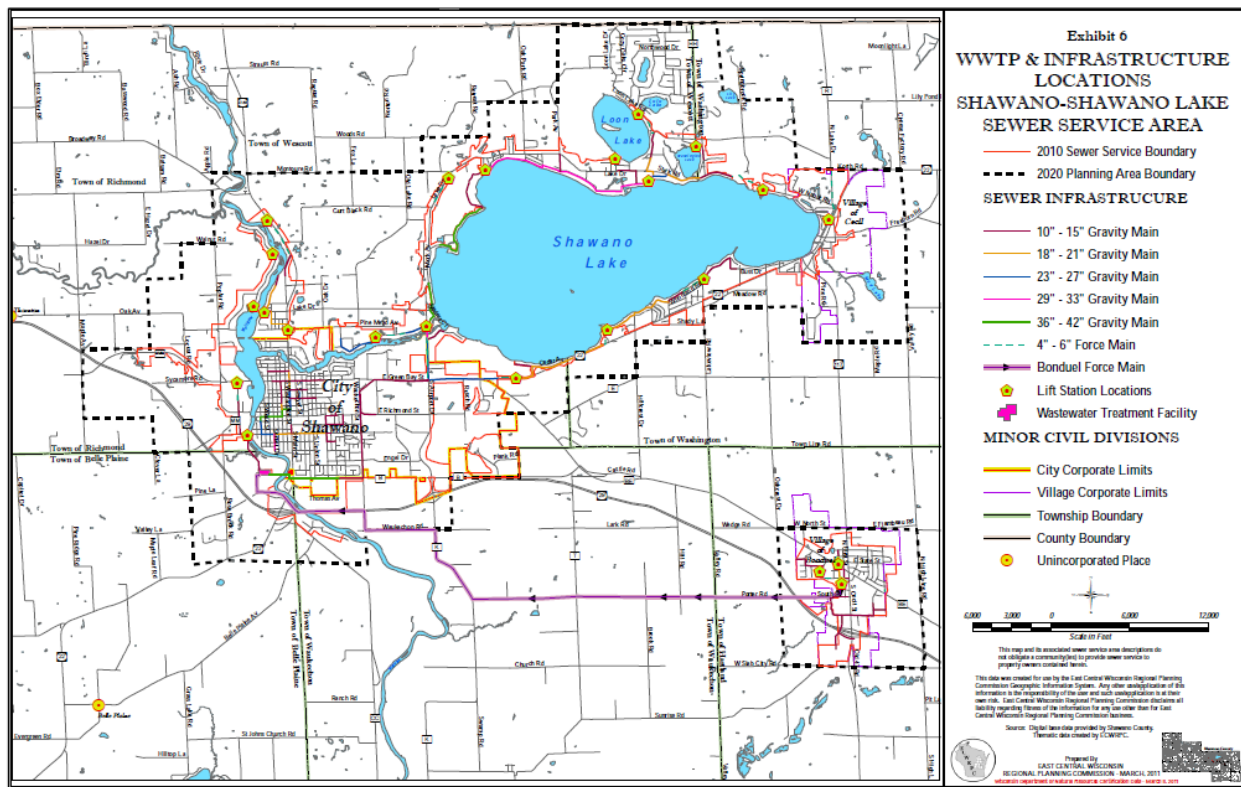
2 - La Crosse Sewer Service Area



Shawano Lake Sewer Service Area

The Wolf Treatment Plant was constructed in 1972 and currently serves six entities that have all purchased capacity in the treatment plant. The six members are the City of Shawano, the Villages of Bonduel and Cecil, the Shawano Lake Sanitary District, the Richmond Sanitary District, and the Belle Plaine/Waukechon Utility District. The treatment plant receives waste at three connection points: a gravity main from the Richmond Sanitary District, a 30-inch interceptor from the City of Shawano, and a 9-mile force main from the Village of Bonduel. All wastewater from the Village of Cecil flows through Shawano Lake Sanitary District, which then flows through City infrastructure. The Belle Plaine/Waukechon District flow connects through the Bonduel force main.

3 - Shawano Lake Sewer Service Area



Neenah Menasha Sewerage Commission

The Neenah Menasha Sewerage Commission was formed in 1982 currently serves the Cities of Neenah and Menasha, the Town of Neenah Sanitary District #2, part of the Village of Fox Crossings, Harrison Utilities, and Sonoco/U.S. Mills. The Commission contracts the operation of the wastewater treatment facility, located in the City of Menasha, to a private operator and each member maintains its own collection system to convey sewage to the treatment facility. It

also owns and maintains five interceptors within the City of Menasha, whose maintenance costs are borne by the communities each interceptor serves.

Interceptors

- Garfield Avenue Interceptor (Menasha Water Plant/Broad St to NMSC Plant)
 - Menasha is allocated 100% of costs
- Lakeshore Interceptor (9th/Emily St to Lock/Broad St)
 - Menasha is allocated 100% of costs
- Water Street Interceptor
 - Menasha is allocated 100% of costs
- Tayco Street Interceptor (6th St to Lock/Broad St)
 - Allocations: Menasha – 51.20%, Fox Crossing – 41.59%, Harrison – 7.21%
- Mathewson Street Interceptor (Lock/Broad St to NMSC Plant)
 - Allocations: Menasha – 55.77%, Fox Crossing – 37.69%, Harrison – 6.54%
- Tayco Street Interceptor (Airport Rd to 6th St)
 - Allocations: Fox Crossing – 85.23%, Harrison – 14.77%

2020 Budget Highlights

- Total budgeted expenses are \$5.6 million including debt service
- Interceptor Maintenance costs (\$40,000) are billed to each community based on their percentage use of the interceptor
 - City of Neenah, Town of Neenah SD and Sonoco/U.S. Mills are not charged for any interceptor maintenance.

Racine Water and Wastewater Utility

The Racine Water and Wastewater Utility currently serves the City of Racine and the Villages of Elmwood Park and North Bay on a retail basis. It serves the Villages of Caledonia, Mount Pleasant, Sturtevant, and Wind Point and a portion of the Town of Somers in Kenosha County on a wholesale basis.

The City of Racine constructed its first interceptor sewer and pumping station in 1927, and its first wastewater treatment plant in 1938. In 1968, the City undertook the first major expansion to the plant and began a program of separating its storm water and sanitary sewer mains. Around this time the City was expanding sewer service to the surrounding villages and towns, without requiring annexation of town lands as a condition of receiving sewer service. The plant was expanded again in 1977. Federal funds covered 75 percent of both the 1968 and 1977 expansions. The plant was expanded again in 1989 to handle peak wet weather flows.

In the late 1990's, facing the need for a \$70 million expansion and upgrade to the wastewater treatment plant, as well as \$8.0 million for relief sewers and inline storage facilities to handle peak wet weather flows, the City began negotiating with the other service area communities to

establish a new funding framework. Unlike previous projects, there would not be federal grants, and a significant share of the need for expansion was due to rapid growth in the communities around Racine that had benefited from the extension of sewer service without annexation.

The agreement, signed in 2002, allocated the WWTF costs to deficiency costs, borne by all utility customers through user charges, and growth costs which were assigned to specific communities based on their design flows. The agreement also allocated the cost of two relief sewers and an inline peak flow storage facility to the communities discharging to those sewers, using the reach method. The agreement gives each party capacity rights in the WWTF. Parties contributing to the cost of specific relief sewers and inline storage have allocated capacity in those specific conveyance facilities. The agreement allows communities to buy and sell capacity from each other, subject to approval by the Water and Wastewater Commission. Future upgrades to the WWTF and the conveyance facilities that do not expand the capacity are to be funded by the parties in accordance with their allocated capacity. Facility improvements that provide expanded capacity will be allocated to each party according to the amount of additional capacity that the party chooses to purchase. The agreement is silent as to funding for replacing the utility's interceptor sewers that were not constructed as part of the 2002 agreement.

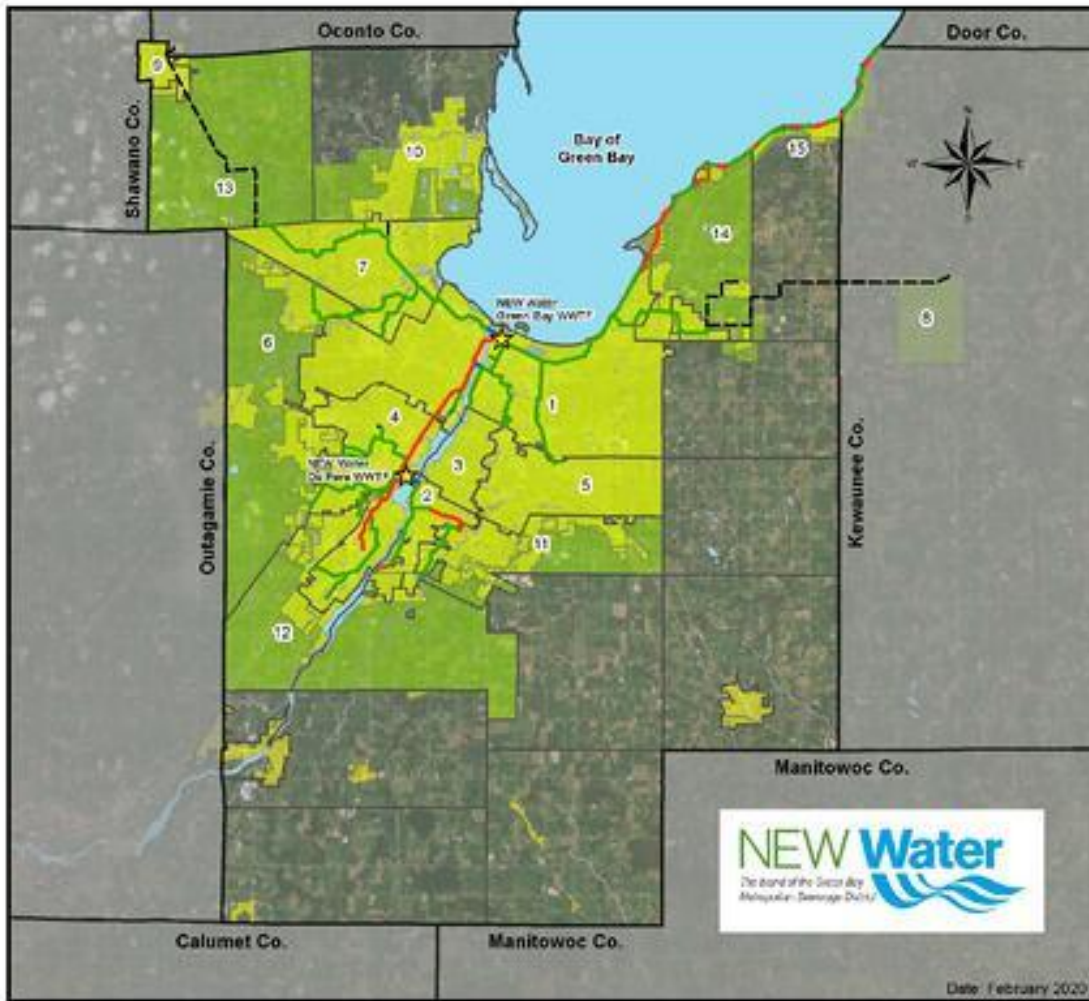
Sussex Regional Wastewater Treatment Facility

The Village of Sussex owns and operates a Wastewater Treatment Facility that serves the Village of Sussex, the Village of Lannon, the Lisbon Sanitary District No. 1, Richmond School, and a portion of the Village of Menomonee Falls.

When a major upgrade and expansion of the WWTF was undertaken in 1995, each of the parties served by the plant was required to pay for a share of the upgrade costs based on existing flows and a share of the expansion cost based on design flows. Each party was allocated capacity rights in the WWTF based on the amount purchased capacity. Parties are allowed to buy, sell, or transfer capacity rights to other parties, subject to approval by the Village of Sussex. The Village of Sussex purchased capacity for the Lisbon Sanitary District in the 1995 upgrade and expansion project and recovered the cost of debt service through rates charged to the District. When the plant was upgraded and expanded again in 2007, the same method was used to allocate capacity rights and costs. The Richmond School and the Lisbon Sanitary District discharge to the Village of Sussex sewer interceptors and operation and maintenance and capital costs are included in the user charge rates. The Villages of Lannon and Menomonee Falls constructed their own interceptor to bring wastewater flows to the WWTF, so no interceptor costs are included in the user charge rates for either village.

NEW Water (Green Bay Metropolitan Sewerage District)

NEW Water provides wholesale treatment service to 15 municipalities serving 236,000 people. It operates two treatment facilities in Green Bay and DePere, and the forcemain and gravity sewers shown below.



Service Area

1. City of Green Bay
2. City of De Pere
3. Village of Allouez
4. Village of Ashwaubenton
5. Village of Bellevue
6. Village of Hobart
7. Village of Howard
8. Village of Luxemburg
9. Village of Pulaski
10. Village of Suomico
11. Town of Ledgeview Sanitary District #2
12. Town of Lawrence - Utility District
13. Pittsfield Sanitary District No. 1
14. Scott Municipal Utility
15. Dyckesville Sanitary District

LEGEND

-  Gravity Sewer
-  Force Main Sewer
-  Siphon Sewer
-  Sewer By Others
-  Municipal Boundaries
-  Brown Co. Sewer Service Area
-  NEW Water Annexed Area
-  Adjacent Counties
-  River/Bay

The District has intermunicipal agreements with the service area municipalities that allocate capacity in each segment of the interceptor sewer(s) serving the municipality. If a municipality needs additional capacity in any segment of an interceptor, it must sign an agreement with the District to purchase additional capacity. When the District replaces or rehabilitates a segment of interceptor sewer, contributing municipalities are not directly responsible for any cost of the replacement or rehabilitation unless they need additional capacity in the interceptor. The cost of replacing or rehabilitating interceptors that is not charged directly to service area municipalities is included in user charges.